REMARKS

By this amendment, claims 1, 7, 9-11, and 16-19 and the abstract have been amended and claim 15 has been canceled to place this application in condition for allowance. Currently, claims 1-21 are before the Examiner for consideration on their merits.

First, the Abstract has been revised in response to the Examiner's objection on page 2 of the Detailed Action, and a separate copy is attached at the end of this amendment.

Second, claim 1 has been revised to claim the cooling system in combination with a trailer as originally recited in claim 15.

Third, each of the independent claims has been revised to clarify that the axle assembly is un-powered. Support for this amendment comes at least from the description of the invention on page 3, lines 16-20, wherein the presence of an engine is eliminated.

It is respectfully submitted that, by the amendments to claims 1, 10, 17, and 19, the rejection fails for the simple reason that a *prima facie* case of anticipation or obviousness is not established. The rejection is addressed below by a description of the invention, the rejections, and arguments.

INVENTION

The invention is directed to the problem associated with trailers and other un-powered vehicles that require brake cooling. As mentioned in the specification, the tonnage required to be hauled by the current state of the art trailers is ever-increasing. Concurrently, the braking requirements on the axle assemblies have also increased, and current braking systems or other designs intended to alleviate this increased demand are still problematic. That is, cooling the brakes using the engine of the hauling vehicles creates problems in hook-ups to the trailer.

Installing a separate power unit on the trailer is also problematic due to the cost and complexity involved.

The present invention solves this dilemma efficiently and simply by using the rotation of the un-powered axle assembly to drive the brake cooling system.

REJECTION

In the Office Action, the Examiner rejects claim 19 under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 2,879,867 to Rike.

Claims 1, 9-11, and 14-18 are rejected under 35 U.S.C. § 103(a) based on the combination of Rike and United States Patent No. 5,178,238 to Schaeff. In this rejection, the Examiner admits that Rike does not use a hydraulic fan assembly. The Examiner turns to Schaeff for the teaching of the use of a hydraulic fan assembly in a retarder and concludes that it would be obvious to use such a fan assembly in Rike.

ARGUMENT

Claim 19

Rike has nothing to do with the invention of claim 19. As amended, claim 19 defines a trailer with an un-powered axle assembly. This limitation alone overcomes the rejection of claim 19 under 35 U.S.C. § 102(b) on the grounds that Rike does not teach a trailer at all. Rather, Rike is directed to a powered vehicle that has the brake cooling drive as an integral part of the wheels. In Rike, the problems relating to circulation for a brake cooling system are recognized in col. 1, lines 38-52. That is, the inherent resistance found in the lines can cause the circulating pump to cavitate, thus reducing the flow of brake coolant and adversely affecting braking efficiency.

Rike's advancement in this regard is to install the pump within the brake housing and key it to a disk carrier so that the pump rotates when the disk carrier rotates, which in turn rotates with the axle. While Rike may run the pump off of the axle rotation, his system is completely different than the inventive system since Rike is only an improvement for vehicles that are powered, and these types of vehicles are not the subject of the invention.

Since Rike does not teach a trailer having an un-powered axle assembly, the Examiner must withdraw the rejection of claim 19 based on 35 U.S.C. § 102(b).

Moreover, it is Applicant's contention that there is no motivation to take the teachings of Rike and somehow arrive at the invention. As stated above, Rike does not teach a trailer having an un-powered axle assembly. Therefore, why would one of skill in the art take a prior art trailer assembly such as that shown in Figure 1 and modify it according to the teachings of Rike, particularly when the brakes of such trailers would already be cooled using the engine of the hauling vehicle? There just is no motivation to modify the current trailer brake cooling systems by employing the system of Rike, and any such rejection would be totally unsupported by the facts, and could not be sustained on appeal. In fact, such a rejection could only be based on the hindsight reconstruction of the prior art in light of Applicant's own disclosure. Therefore, claim 19 is patentably distinguishable over Rike, both from an anticipatory standpoint and an obviousness view.

Schaeff

Schaeff does not supply the deficiencies in Rike and even if combined with Rike, the invention of claim 19 would still not be taught. Schaeff is relied upon by the Examiner to allege that it would be obvious to use a hydraulic pump in Rike. This has nothing to do with the basic invention or the failings in Rike as outlined above. Schaeff does not even relate to trailers or the

problem of brake cooling for the axle assemblies of trailers. Therefore, Rike and Schaeff cannot teach claim 19.

Claims 1 and 10

As with claim 1, each of claims 1, 10, and 17 have been revised to emphasize the un-powered nature of the axle assembly of a trailer. In the rejection, the Examiner combines Rike and Schaeff to reject claims 1 and 10. This rejection is flawed for two reasons. First, it is contended that there is no motivation to even combine Schaeff with Rike given the disparity between the teachings of these two patents. Rike, as explained above, is directed to a brake cooling system. In contrast, Schaeff is an improvement in brake retarders, wherein the retarder is smaller and lighter than prior art ones. Why would one of skill in the art pluck the hydraulic pump of Schaeff and use it in Rike? There is just no reason to do so, and the Examiner is again employing hindsight to formulate a rejection under 35 U.S.C. § 103(a). Thus, there is no legitimate basis to look to the teachings of Schaeff to modify Rike, and claims 1 and 10 are patentable for this reason alone.

Second, Rike and Schaeff cannot teach the features of claims 1 and 10 for the same reasons outlined above for claim 19. That is, claims 1 and 10 define a trailer with the inventive brake cooling system, or a method of cooling brakes involving an un-powered axle assembly of a trailer. Rike, even if combined with Schaeff, fails to teach or suggest these aspects of claims 1 and 10 and the rejections as applied against these claims must be withdrawn.

Claim 17

Claim 17 differs from claims 1 and 10 in that it claims the brake cooling system with the un-powered axle assembly but not the trailer. Nevertheless, this claim is distinguishable from Rike, with or without Schaeff, since Rike does not teach an axle assembly with a transmission or

linking the pump to the transmission of an axle assembly. In Rike, the pump is linked to the disk carrier which is in turn linked to an axle. There is no teaching of linking the pump to the transmission of an axle assembly or even associating a transmission with the axle assembly. While Rike may imply the presence of a transmission by its drawings, there is no disclosure whatsoever that the output of the transmission drives the pump. In the rejection, the Examiner alleges that the key connection is a transmission. There is no factual basis to draw this conclusion. A key connection is at best a mechanical linkage connecting the pump to the disk carrier. If anything, the key connection would correspond to the language of the claim that states that the pump "is linked" to other structure, but it is the other structure, i.e., the transmission that is lacking in Rike. The disk carrier cannot be interpreted as a transmission, and therefore, Rike fails to teach this aspect of claim 17. Consequently and contrary to the allegations set forth in the rejection, Rike does not teach the elements of claim 17 save for the hydraulic pump assembly. Therefore and regardless of whether Schaeff is combined with Rike or not, the features of claim 17 are not taught by this prior art, and the rejection must be withdrawn.

SUMMARY

Applicant submits that the Examiner has failed to establish a *prima facie* case of anticipation and obviousness against the enumerated claims above, the rejections of record should be withdrawn, and claims 1-21 should be allowed. More specifically, Rike does not anticipate claim 19, Rike and Schaeff do not render claims 1, 10, and 17 obvious.

Accordingly, the Examiner is respectfully requested to examine this application and pass it onto issuance.

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The above constitutes a complete response to all issues raised in the Office Action of October 5, 2004.

If an interview would expedite the prosecution of this application, the Examiner is respectfully requested to telephone the undersigned at 202-835-1753.

Please charge deposit account No. 50-1088 the amount of $100.00 to cover the additional independent claim added by this amendment. To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136(a) is hereby made. Please also charge any shortage in fees due in connection with the filing of this paper, including extension of times fees to deposit account number 50-1088 and please credit any excess fees to such account.

Again, reconsideration and allowance of this application is respectfully solicited.

Respectfully submitted,
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